



# PITTSFIELD CHARTER TOWNSHIP

## ENERGY

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## ACKNOWLEDGMENTS

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## PURPOSE OF THE PLAN

This document lays the foundation for a robust energy plan employing six categories to help Pittsfield Charter Township achieve its goals of saving energy and reducing costs. This plan is written in a complimentary way to be easily added into existing plans such as the township's overall Master Plan. An action plan is located on page 26 and outlines each category by goals, timeframe, and subsequent actions that represent a step-by-step approach to maximizing facility efficiency within the budgetary constraints of the township.

## AN ENERGY VISION FOR PITTSFIELD CHARTER TOWNSHIP

"After having, in seven short years, manifested the vision of the 2010 Pittsfield Master Plan to "mainstream non-motorized transportation, dense mixed-use, and infill development within a non-urbanized and township context," our next step is to hard-code sustainability into the DNA of our work processes and products." Pittsfield Charter Township has taken the input from the township's first Stainability Conference in 2016 along with the public input and feedback obtained through the 2020 Vision planning process to articulate a vision that makes sustainability a central unit of analysis in updating the Master Plan and Parks & Recreation narrative along with the township's goals and objectives such that the future vision is defined within a sustainable framework. The following pages represent a pathway for accomplishing the township's vision of becoming a clean, efficient township powered by renewable energy.

Energy production, management, and consumption are inextricably linked to environmental and community health and climate change – impacts that ripple through local economic development and municipal financial situations in ways that are hard to value but are real and significant nonetheless. Therefore, for municipalities and local governments, prioritizing clean energy projects in concert with long-term energy planning efforts can simultaneously promote community sustainability while generating significant financial benefits.

An energy plan is an important tool for cutting costs, reducing risks, and optimizing returns on investment - in other words, improving the bottom line, inescapably a central concern of municipality leaders. This benefit alone justifies the exercise. Pittsfield Charter Township is positioned to benefit to a far greater and fundamental extent from development of an overall energy strategy that grows the top line - economic growth and municipal revenue - by helping the township become its best self.

The focus on sustainability arises as much from a need to preserve the environment as it does from creating a sense of place for all, such that everyone not only feels welcome but enjoys living, working and recreating in Pittsfield. This focus not only further promotes sustainability, but also a sense of place by supporting local farming, public gathering spaces, public art, local (green) business. The township recognizes that sustainability has an economic development component. The goal, then, is to nurture a "green" business base that complement's Pittsfield Township's goal of "going green" while, at the same time, assisting the entire region to become more sustainable, both environmentally and economically. The vision and goals articulated in the master plan, climate action plan, and economic development and downtown plans, as well as the values widely held among residents, elected officials and township staff, all strongly resonate with an ambitious energy vision.

## SUMMARY OF RECENT ACCOMPLISHMENTS

- Most recently in 2018, the township was awarded a gold Michigan Green Communities certification for an array of accomplishments. Most significantly the township, “adopted revisions to the zoning ordinance to reflect an emphasis on natural resources protection and established the Sustainability Committee to hard code a focus on environmental stewardship into the DNA of Pittsfield Township’s work processes and products.”<sup>1</sup>
- In 2017 Pittsfield Charter Township adopted the 2020 Sustainable Vision Parks and Recreation Master Plan and the 2020 Sustainable Vision Master Plan.
- In addition to adopting the plans, the township established a Sustainability Committee in 2017 to focus on best practices in sustainability and to implement the objectives of the 2020 Sustainable Vision Master Plan.

The 2020 Sustainable Vision plans tie recent efforts, as well as many other existing and future initiatives, into a coherent, prioritized and cost-effective framework that is synergistic with the township’s economic and social development, fiscal, sustainability and other goals.

## SUMMARY OF RECOMMENDATIONS

The six sections of the Energy Plan present a wide range of recommended goals and actions to build on Pittsfield’s strengths and improve its weaknesses related to energy management and sustainability in the township. Recommendations reflect how Pittsfield Charter Township management and leadership envision Pittsfield’s energy future and relevant energy goals that the township wishes to achieve in order to advance that vision.

To this end, the opportunities for energy management are presented in six categories:

1. Project selection and implementation
2. Funding
3. Staffing
4. Policies and procedures
5. Data
6. Communications

A comprehensive set of action steps can be found in the Action Plan located at the end of this document.

### **Disclaimer:**

This plan covers energy generation and uses in municipal facilities only and does not cover transportation planning or municipal fleet management. Also, while the plan does not directly address energy management for residents and businesses it is our hope that municipal officials, residents, and businesses will be encouraged by the success of municipal energy planning to adopt broader-reaching policies, practices, and projects.

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<sup>1</sup> Michigan Green Communities. Thirty Michigan Communities Recognized for Sustainability Achievement. <http://migreencommunities.com/thirty-michigan-communities-recognized-for-sustainability-achievement/> (10/16/2018)

# 1

## PROJECT SELECTION & IMPLEMENTATION

The development of this energy plan revealed opportunities for updating how the township manages buildings and selects projects.

**GOAL 1: IMPROVE MUNICIPAL BUILDING PERFORMANCE.**

**GOAL 2: IDENTIFY AND IMPLEMENT CLEAN ENERGY PROJECTS.**

The EcoWorks/SEMREO approach to becoming a 100% renewable energy township begins with efficiency. Efficient buildings increase the benefits of renewable energy generation while creating comfortable, healthy work environments for municipal employees. The determination of which projects are tackled first is most effective as a data-driven decision guided by an understanding of which buildings are underperforming compared to other buildings of comparable size and use.

Second, a whole-building approach that examines how the various parts of the building work together is strongly recommended. Tackling only the “low-hanging fruit” for example, can lead to oversized HVAC systems, excess lighting, or lost opportunities to couple projects together for more attractive loan terms.

Finally, working across departments and gathering input from facilities maintenance staff and department heads can identify non-energy related building issues (mold, pests, etc.) that can be addressed simultaneously with other upgrades.

Reviewing ongoing planning efforts such as the township’s master plan will help to address priorities and round out the final project selection process. A full set of recommended steps can be

found in the Action Plan at the end of this document.

Pittsfield Charter Township has completed numerous energy efficiency measures including converting 100% of LED traffic lights to LED and utilization of energy efficient window treatments at township facilities. A summary of implemented energy projects is located in Table B. As the township continues to invest in efficient projects it is recommended to conduct energy audits of municipally owned facilities as to prioritize poorly performing facilities.

It is recommended that future energy assessments be incorporated into a larger municipal energy portfolio such as the capital improvement plan. Table A includes a summary of technical assessments and audits previously completed for Pittsfield Charter Township.

To the authors’ knowledge, Pittsfield Charter Township has not completely benchmarked and analyzed energy usage for all municipal-owned facilities, however the township has taken steps to institute an infrastructure that supports benchmarking; for the past couple of years the Finance Department has compiled energy usage and cost

Table A: Summary of Technical Assessments and Audits			
Facility Name	Assessment/Audit Description	Assessment/Audit Administrator	Assessment/Audit Date
<b>Previous Assessments/Audits Over Last Five Years</b>			
Township Administration Building	Energy Audit	AKT Peerless	2010
<b>Potential Assessments/Audits Next Five Years</b>			
Fire Station 2 & 3	Energy Audit	TBD	TBD

data. Benchmarking facility energy usage via platforms like the EPA’s portfolio manager can empower the township to best address usage, billing and rate issues independently.

The township is committed to continue promoting increased energy efficiency in its own public buildings, business sector, and residents’ homes. The township began its internal analysis with the Energy Efficiency and Conservation Block Grant (EECBG) and will continue to study energy use within township facilities and the township as a whole. The township will set further benchmarks for reduced energy consumption and more efficient energy use that goes above and beyond the requirements of the current building code.

In an effort to educate and change the culture of the population in the township regarding sustainability issues and practices, the township should lead by example through greening its facilities and practices and supporting sustainability objectives. The township has started this work addressing various energy efficiency measures at the Administration building including an energy audit in 2010 and installation of energy efficient blinds in 2016. Moving forward under that framework, the township will lead by example and continue to install energy efficient building materials and appliances into municipal owned facilities. A trusted auditor such as Michigan Energy Options can help identify key opportunities for performance improvements.

Furthermore, the township should strive to encourage developers to utilize energy efficient

building practices and materials and provide incentives for their use. It is recommended to promote information to the community regarding existing programs and practices available for energy efficient home building and renovation.

An up-to-date summary of implemented clean energy actions is located in Table B and a summary of clean energy projects to be completed in the near future is located in Table C.

### **BUILDING GREEN:**

The Township is evaluating the need to update buildings in the next few years. It is recommended to utilize the most efficient equipment available and incorporate renewable energy into the energy portfolio of each building and back-up generation.

### **PROJECT COMMITMENT:**

During the energy planning process, Pittsfield Charter Township has made a commitment  
 \_\_\_\_ NEED TO FILL IN COMMITMENT \_\_\_\_

**Table B: Summary of Implemented Clean Energy Actions**

Facility Name	Projects Completed								
	Project Description	Date Completed	Fund Source	Retro-Commissioning	Lighting	Building Envelope	Supplemental Loads (Electronic Equipment)	Air Distribution System/ Conditioned Air (fans)	HVAC
Common places	Lighting sensors	2007			✓				
All Facilities	Installed energy efficient window blinds	2009				✓			
Administration Building	Reduced the ventilation air and installed a new control panel.	Need		✓				✓	
Administration Building	Replaced or retrofitted all the exterior lights. This include the soffit can lights, bollard lights, and parking lot lights. The only lamps that have not been improved are the two ground signs.	Need			✓				
Administration Building	Convert standard incandescent or fluorescent exit signs to LED exit signs as old bulbs burned out.	Need			✓				
Administration Building	The installation of reflective film on the majority of the of- fice area windows facing south.	Need				✓			
Community Center	Replaced the two roof top HVAC.	2010							✓
Community Center	Replaced the four-fuel oil burning furnaces with 95% ef- ficient gas units and two air conditioning units.	2013							✓
Community Center	Installed a new roof structure over the north wing of the	2013				✓			

	building and upgraded the electrical service.									
Community Center	Replaced 15 windows in the original portion of the building.	10/8/2014							✓	
Community Center	Installed window blinds.	Need							✓	
Community Center	Replaced the gas fired furnace in the garage office area.	Need								✓
Administration Building	The installation of energy saving blinds in all the windows.	2016							✓	
Administration Building	The installation of a new roof.	2017							✓	
Administration Building	Installed an air lock at the rear employee entry door.	9/10/2018							✓	

Table C: Project Action Plan Summary																
Facility Name	Expected Implementation Date	Best Practices Opportunity									Project Description	Preparation		Impact		Short-term or long-term
		Air Handlers/ RTUs	Boilers	Chillers	Cooking Equipment	DHW Systems	Heating/Cooling Systems	Building Envelope	Lighting	Other		Building Drawings	Equipment Drawings, Manuals	Project Quote		
														Yes	No	
Administration Building	2019		✓								Replace the boilers and the pneumatic controls					S
All Municipal Facilities	TBD								✓		Upgrade existing lighting to LED lights					S
Utilities Field Office	TBD										Evaluate need for new facility and utilize energy efficient					

											equipment and renewable energy into new building construction					
Police/Fire Station 1	TBD										Evaluate need for new facility and utilize energy efficient equipment and renewable energy into new building construction					
Fire Station 2	TBD										Energy audit					
Fire Station 3	TBD										Energy audit					
Community Center	TBD	✓	✓	✓	✓	✓	✓	✓	✓	✓	Evaluate need for new facility and utilize energy efficient equipment and renewable energy into new building construction					L

# IMPLEMENTATION STRATEGIES AND ACTIONS

<b>GOAL 1: Improve municipal building performance.</b>	
PSI1.1	Lead by example and install energy efficient building materials and appliances into municipally owned facilities.
PSI1.2	Implement projects listed in the Project Action Plan Summary.
PSI1.3	Assemble all audit reports from any buildings that have had audits within the last 10 years.
PSI1.4	Establish a capital improvement plan (CIP) and build in a frequent review of the plan to identify any equipment that is otherwise due for replacement. Adopt a life cycle costing approach to equipment replacement decisions.
PSI1.5	Interview facilities maintenance staff, department heads, the township manager, the mayor, and other key staff and officials to identify any other energy-related needs or opportunities.
PSI1.6	Have audits performed on any buildings that have not had an audit performed in the past 10 years.
PSI1.7	Use the results of the Portfolio Manager accounting to identify buildings that are underperforming and/or experiencing unusual spikes in consumption that may be a sign of gas leaks or malfunctioning electrical equipment.
PSI1.8	Establish and set further benchmarks for reduced energy consumption and more efficient energy use that goes above and beyond the requirements of the current building code.
PSI1.9	Have retro-commissioning studies performed on any building with equipment that is not due for replacement, but may be showing a steady decline in performance over time.
PSI1.10	Review ongoing planning efforts including the township's master plan to identify any priority areas that may not be identified through a strictly data-driven approach.
<b>GOAL 2: Identify and implement clean energy projects.</b>	
PSI2.1	Prioritize table C: Project Action Plan Summary.
PSI2.2	Utilize the most efficient equipment available and incorporate renewable energy into the energy portfolio of each building (existing and new) and back-up generation.
PSI2.3	Using the information gathered in the steps above, select a suite of projects to undertake in the short-term. Couple projects with a short return on investment with projects with a long return on investment to improve the terms of longer ROI projects and facilitate their completion.

# 2

## FUNDING

Adoption of the Pittsfield Charter Township 2020 Sustainable Vision Master Plans has positioned the township to explore creative methods to manage and finance energy efficiency improvements and clean energy projects. The steps identified in this document are recommendations geared toward avoiding impacts to the general fund and are outlined in the Action Plan located at the end of this document.

**GOAL 1: INCREASE ENERGY EFFICIENCY AND RENEWABLE ENERGY FUNDING THROUGH INTERNAL AND EXTERNAL SOURCES.**

**GOAL 2: ESTABLISH A REVOLVING ENERGY FUND.**

To the author's knowledge, the largest energy efficient financial investment that the township has made within the past ten years has been the Community Center furnace and HVAC unit replacements and the installation of new windows. Since then, the township has pursued various grant funded opportunities like the Mott funded energy planning with EcoWorks.

To enhance current efforts an overview of less well-known funding opportunities is provided in table D to support municipal energy efficiency and/or renewable energy projects.

Revolving energy funds are a promising alternative to external financing. Many municipalities and universities throughout the United States are establishing and sustaining a variety of revolving energy funds, also known as green energy funds. These funds pay for energy savings projects and replenish itself by capturing a portion of the savings from these projects. Savings can then be used to fund future energy savings projects, capturing additional capital.



**Energy Efficiency & Conservation Block Grant (EECBG):**

With the receipt of the EECBG in 2010, the township began putting the Pittsfield Gone Green initiative into action. A primary goal was to use these grant monies to develop an educational energy conservation campaign for the public to inspire residents to initiate energy conservation techniques in their homes and businesses. The goal is to have the township continue being a demonstration base for promoting conservation and energy efficiency protocols.

**POSSIBLE SOURCES OF SEED FUNDING FOR A REVOLVING ENERGY FUND:**

- a. Utility reimbursements from billing errors.
- b. Left over maintenance funds that are not used at the end of a particular fiscal year.
- c. Energy cost savings from energy projects recently undertaken.
- d. Another source of funds mutually agreed upon by Township decision makers.

**Table D: Project Financing Options**

Financial Source	Eligible Projects	Available Funding
<b>Loans</b>		
<b>State Revolving Fund</b>	Renewable energy and energy efficiency measures	Varies
<b>Michigan Saves</b>	Energy efficiency and renewable energy projects for the residential, commercial, multifamily, and public sectors	Varies
<b>Grants</b>		
<b>DOE Small Grants and EERE Exchange</b>	Residential, commercial, and municipal building energy efficiency and renewable energy measures	\$1,000-\$100,000; Grant-specific
<b>Private Foundations</b>	Diverse renewable energy initiatives	Varies
<b>Rebates</b>		
<b>DTE Commercial &amp; Industry Energy Efficiency Program</b>	Energy efficiency improvements, equipment replacement, efficient retrofits	Varies by equipment
<b>Consumers Energy Efficiency Program</b>	Wide range of rebates for energy efficient upgrades	Varies
<b>Alternative Options</b>		
<b>Tax- exempt Lease Purchase (TELP)</b>	Energy conservation improvements	Municipality annual appropriations
<b>Third-party Power Purchase Agreement (PPA)</b>	Renewable energy projects i.e. solar photovoltaic	Varies

# IMPLEMENTATION STRATEGIES AND ACTIONS

**GOAL 1: Increase energy efficiency and renewable energy funding through internal and external sources.**

F1.1	Apply for applicable utility-based energy waste reduction programs.
F1.2	Continue to take advantage of sporadic and time-sensitive grant opportunities like the Mott funded Energy Planning with EcoWorks.
F1.3	Review the table of Project Financing Options located in Table D of this document for financing mechanisms that may be a good fit for a particular project or need.

**GOAL 2: Establish a revolving energy fund.**

F2.1	Identify sources for seed funding.
F2.2	Determine scope of the fund (i.e. single building, municipal, community-wide).
F2.3	Return 80% of energy cost savings from all projects to the revolving energy fund to allow for seeding of projects in the following year.
F2.4	Pass policy to establish and adopt a revolving energy fund.

# 3

## STAFFING

For many years Supervisor Mandy Grewal has spearheaded and continues to pursue energy efficient projects and policies for the township. Complimentary to the Supervisors work, Community Development Manager, Jessica West, currently leads energy responsibilities for the township. In addition, the township has established a Sustainability Committee that looks for innovative ways to boost the environmental profile of the township. The planning process associated with this document revealed the need for dedicated staff to lead the ongoing and potential energy management and sustainability work.

**GOAL 1: ESTABLISH AN ENERGY MANAGER POSITION.**

**GOAL 2: INCORPORATE THIS ENERGY PLAN INTO THE SCOPE OF WORK FOR THE SUSTAINABILITY COMMITTEE.**

Municipalities that have successfully managed their energy portfolios have dedicated staff to lead the work. This is typically a staff member who has the technical skills necessary to identify key energy projects, has the authority level to move projects through the approvals processes, and the financial know-how to make sure that projects fit within the budgetary constraints of a township.

For larger municipalities with populations of 100,000 or more, it is recommended to hire a full-time energy manager to serve on the municipal staff. For municipalities under 100,000 in population, a part-time energy manager is typically sufficient. This person may be on staff or be part of a third-party organization like the members of the Michigan Community Energy Partnership (MI-CEP) which includes EcoWorks, SEMREO, SEEDS, and Michigan Energy Options.

Regardless of the staffing structure for the energy manager, political buy-in from decision

makers including the township supervisor, members of the board of trustee, and department heads is essential for making productive changes in how a township manages its energy portfolio.

The township established a sustainability committee in 2017. The committee is made up of eight members. It is recommended to incorporate this energy plan into the scope of work for the Sustainability Committee to compliment energy efforts pursued by the township.

In Pittsfield Charter Township, the Supervisor's Office, Community Development Department, and the Township Board of Trustees have all been supportive and instrumental in passing significant energy goals. Establishment of at least a part-time energy manager is a strong next step toward ensuring that these energy goals are brought to fruition. In the meanwhile, it is recommended that the township acknowledge authority of the Community Development Depart-

ment, to coordinate energy management activities and identify the staff within the department as a recognized resource for township staff.

The bullets below are recommended components of the job description of an energy manager:

- Monitor energy bills and facility performance for all of the township's holdings.
- Manage capital improvement projects related to energy efficiency or renewable energy generation.
- Lead bid processes for large-scale energy efficiency and/or renewable energy projects.
- Promote the energy vision among staff, residents, and businesses.
- Seek grants, loans, special assessments, bonds, PPAs, and/or other external funding mechanisms to implement clean energy projects.
- Support the establishment of policies and procedures that make energy efficiency and/or renewable energy projects easier to undertake in the township.
- Establish and facilitate an energy commission of local government staff and officials as well as residents who will be responsible for enacting the energy vision of the township.



# IMPLEMENTATION STRATEGIES AND ACTIONS

<b>GOAL 1: Establish an Energy Manager position.</b>	
S1.1	Acknowledge authority for the Community Development Department to coordinate energy management activities and identify staff in the department as a recognized resource for township staff.
S1.2	Hire a part-time Energy Manager as an added part of a current employee's job description, as a new position within the government, or as a third-party contract.
<b>GOAL 2: Incorporate this energy plan into the Scope of Work for the Sustainability Committee.</b>	
S2.1	Include implementation of this Action Plan in the Sustainability Committee scope of work.

# 4

## POLICIES AND PROCEDURES

The Pittsfield Charter Township Sustainability Committee has created a 2020 Sustainable Vision Master Plan. The planning process involved in this document revealed opportunities for the township to promote this commitment in an effort to improve sustainable design and raise awareness within the community.

**GOAL 1: PROMOTE AND STRENGTHEN ENERGY MANAGEMENT POLICIES AND PROCEDURES.**

**GOAL 2: IMPROVE KNOWLEDGE OF ENERGY MANAGEMENT AND SUSTAINABLE DESIGN AMONG TOWNSHIP STAFF AND APPOINTED AND ELECTED OFFICIALS.**

The sections discussed previously including project selection and implementation, funding, and staffing, are all critical to beginning the transition to becoming a clean energy township, but changes in policy and procedures are essential follow ups to build clean energy into township operations and ensure the longevity of efforts regardless of staff turnover or election cycle.



# IMPLEMENTATION STRATEGIES AND ACTIONS

<b>GOAL 1: Promote and strengthen energy management policies and procedures.</b>	
PP1.1	Promote the following environmental standards: article 14.11 wind energy conversion systems, article 14.12 solar energy collectors and article 14.13 geothermal energy systems.
PP1.2	Sign and uphold the commitments of the Paris Climate Accord.
PP1.3	Sign and uphold the Sierra Club’s Ready for 100 pledge to commit to running your township facilities on 100% renewable energy.
PP1.4	Pass a resolution or policy that requires all municipal buildings to benchmark energy consumption data annually.
PP1.5	Pass a board of trustees resolution in support of adopting this Energy Plan.
PP1.6	Examine procurement policies to ensure that the bidding and/or purchasing processes account for the energy efficiency of equipment and do not create a barrier to implementing clean energy projects.
PP1.7	Regularly examine standards to ensure that they remain current and in alignment with new strategies and green technologies as they are developed.
PP1.8	Streamline the permitting and inspection processes for residents and businesses to install solar and geothermal systems and publish this process online.
PP1.9	During the township’s next master plan cycle, update the energy policy guidance as a part of the Master Plan.
<b>GOAL 2: Improve knowledge of energy management and sustainable design among township staff, appointed and elected officials.</b>	
PP2.1	Include information on the township’s energy vision and energy management strategy in the orientation packets for all appointed and elected members of boards and commissions as well as municipal staff members.

# 5

## DATA

The planning process revealed opportunities to benchmark energy consumption data and in return save money.

**GOAL 1: IMPROVE THE DATA-DRIVEN APPROACH TO MANAGING ENERGY USAGE.**

**GOAL 2: ESTABLISH A PROCESS TO ANALYZE DATA TO DETERMINE ENERGY USE TRENDS AND BILLING ERRORS.**

**GOAL 3: IMPROVE COMMUNICATIONS WITH FACILITY MANAGERS, UTILITY PROVIDERS, AND RELEVANT CONTRACTORS TO RESOLVE ISSUES QUICKLY.**

To help stretch project dollars as far as possible and ensure the “best bang for the buck”, a data-driven approach to decision making should be taken. By assessing Pittsfield’s current annual energy consumption and dollar expenditure, it becomes possible to identify in quantifiable terms underperforming facilities, gas leaks, and sometimes even faulty equipment causing otherwise unexplained spikes in energy consumption and/or gradual increases in energy consumption that are not explained by other factors.

### TIPS!

**Gas leaks are an emergency and the appropriate hotline should be called immediately:**

- DTE Energy Gas Leak Hotline: 1-800-947-5000
- Consumers Energy Gas Leak Hotline: 1-800-477-5050

The widespread energy and financial benefits of systematically reporting and analyzing energy

### HOW TO BENCHMARK:

Begin benchmarking by gathering all available information on municipal facilities including 12-36 months of energy bills, square footage, occupancy levels, and the year built.

Common places to look for missing information are your facility managers, finance department, and/or your DTE or Consumers account representative.

The Energy Star Portfolio Manager tool is recommended for tracking. This tool will enable your energy manager to compare, at a glance, each building’s performance against similar buildings in your region as well as with one another.

data with Portfolio Manager are reflected in the findings of a study on benchmarking and energy savings conducted by the U.S. Environmental Protection Agency. With data from over 35,000 facilities using the EPA Portfolio Manager tool

for energy benchmarking, average energy consumption per building was reduced by 7% over the period of 2008-2011.

It is recommended that the township collect electricity and natural gas bills and establish a list of facilities and associated addresses, square footage, account numbers, and meter numbers.



# IMPLEMENTATION STRATEGIES AND ACTIONS

<b>GOAL 1: Improve the data-driven approach to managing energy use.</b>	
D1.1	Identify or build a master list of all municipally owned facilities.
D1.2	Collect copies of the previous 12-36 months of energy (gas, electricity, and steam) consumption data and enter into a spreadsheet format consistent with Portfolio Manager.
D1.3	Create a spreadsheet on the shared drive to organize energy use information including the appropriate level of detail such as facility name, address, account numbers, meter numbers, square footage, year built, number of computers etc.
D1.4	Collect building and consumption information for all municipally owned facilities and upload into the EPA's Portfolio Manager.
D1.5	Establish a process to populate energy consumption data monthly or quarterly into Portfolio Manager.
<b>GOAL 2: Establish a process to analyze data to determine energy use trends and billing errors.</b>	
D2.1	Examine bills from each facility for any errors or rate optimization that may be possible.
D2.2	Set a base year for comparison using the most complete and relevant sets of data and normalize for weather.
D2.3	Audit at least 10% of energy consumption data in Portfolio Manager for quality assurance/quality control.
D2.4	Look at each building's performance noting any energy spikes or gradual increases in energy consumption that may indicate mechanical failures or leaks.
D2.5	Look at how your facilities compare to others in the region. For any buildings that have recently had upgrades, ensure that the expected drops in energy consumption are also represented. The absence of reductions may indicate failing equipment or incorrect installation.
<b>GOAL 3: Improve communications with facility managers, utility providers, and relevant contractors to resolve issues quickly.</b>	
D3.1	Call DTE to request any refunds for billing errors; use these refunds to seed an energy project financing mechanism such as a revolving energy fund.
D3.2	Ensure that it is part of the energy manager's task load to review building performance every 1-3 months to flag any new issues.

# 6

## COMMUNICATION

The township currently uses email and an intranet system to communicate with staff. Fully using existing and potential channels of communication across departments and with constituents is key to the implementation of any energy plan.

**GOAL 1: IMPROVE ENERGY AND SUSTAINABILITY-RELATED COMMUNICATION RESOURCES.**

**GOAL 2: PROMOTE AND SHARE ENERGY REDUCTION ACHIEVEMENTS WITH STAFF AND RESIDENTS.**

Energy conservation as a municipal-wide strategy will be most successful when it is built into the culture of the organization. Sharing project successes and conservation tips broadly through the communications channels of the Township so that there is awareness among staff, officials, and boards is encouraged. Full adoption of the energy vision will ensure that energy conservation cascades throughout the Township's various operations in ways that will likely be creative and surprising.



# IMPLEMENTATION STRATEGIES AND ACTIONS

<b>GOAL 1: Improve energy and sustainability-related communication resources.</b>	
C1.1	Highlight achievements at the municipal, departmental, and individual level by way of a quarterly report out via the Pittsfield Charter Township website.
C1.2	Distribute easy to follow tips and reminders about the township’s energy vision on a regular basis (monthly or quarterly).
C 1.3	Publish the final adopted version of this energy plan on the township’s website.
<b>GOAL 2: Promote and share energy reduction achievements with staff and residents.</b>	
C2.1	Enact a department-by-department competition to reduce energy expenditures.
C2.2	Consider the development of a website dashboard to report on municipal energy management achievements and progress.
C2.3	Promote the township’s energy vision on municipal marketing materials, letterhead, the township’s website, through regional conferences, and/or other appropriate communication mechanisms.

# ACTION PLAN

In order for the Energy Plan to be implemented, the township and relevant community stakeholders must carry out the actions needed to achieve the goals and the vision for Pittsfield’s future. The Action Plan should be updated frequently by the energy manager or whomever leads energy responsibilities for the township. This responsible party will serve in an overall project management capacity. This Action Plan can be used as a checklist to acknowledge accomplishments and identify next steps which the township can consider at critical decision-making points.

## TIME FRAME

**ONGOING:** Actions that require continuous monitoring or effort.

**NOW:** Begin work immediately upon plan adoption.

**1-2 YEARS:** Begin work within 1-2 years.

**3-5 YEARS:** Begin work within 3-5 years.

**Next Master Planning Cycle:** Actions recommended for next master plan update.

## RECOMMENDED TASK LEADERS INVOLVED

### **TOWNSHIP GOVERNMENT:**

Supervisor Office  
Community Development Department  
Utilities and Municipal Services Department  
Finance Department  
Building Services Department

### **BOARDS AND COMMISSIONS:**

Township Board of Trustees  
Sustainability Committee

PROJECT SELECTION AND IMPLEMENTATION		
ACTION	TIME FRAME	DATE COMPLETED

**GOAL 1: Improve municipal building performance.**

PSI1.1	Lead by example and install energy efficient building materials and appliances into municipally owned facilities.	ONGOING	
PSI1.2	Implement projects listed in the Project Action Plan Summary.	NOW	
PSI1.3	Assemble all audit reports from any buildings that have had audits within the last 10 years.	NOW	
PSI1.4	Establish a capital improvement plan (CIP) and build in a frequent review of the plan to identify any equipment that is otherwise due for replacement. Adopt a life cycle costing approach to equipment replacement decisions.	NOW	
PSI1.5	Interview facilities maintenance staff, department heads, the township manager, the mayor, and other key staff and officials to identify any other energy-related needs or opportunities.	NOW	
PSI1.6	Have audits performed on any buildings that have not had an audit performed in the past 10 years.	1-2 YEARS	
PSI1.7	Use the results of the Portfolio Manager accounting to identify buildings that are underperforming and/or experiencing unusual spikes in consumption that may be a sign of gas leaks or malfunctioning electrical equipment.	1-2 YEARS	
PSI1.8	Establish and set further benchmarks for reduced energy consumption and more efficient energy use that goes above and beyond the requirements of the current building code.	1-2 YEARS	
PSI1.9	Have retro-commissioning studies performed on any building with equipment that is not due for replacement, but may be showing a steady decline in performance over time.	1-2 YEARS	
PSI1.10	Review ongoing planning efforts including the township's master plan to identify any priority areas that may not be identified through a strictly data-driven approach.	Next Master Planning cycle	

**GOAL 2: Identify and implement clean energy projects.**

PSI2.1	Prioritize table C: Project Action Plan Summary.	NOW	
PSI2.2	Utilize the most efficient equipment available and incorporate renewable energy into the energy portfolio of each building (existing and new) and back-up generation.	1-2 YEARS	

PSI2.3	Using the information gathered in the steps above, select a suite of projects to undertake in the short-term. Couple projects with a short return on investment with projects with a long return on investment to improve the terms of longer ROI projects and facilitate their completion.	1-2 YEARS	
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FUNDING		
ACTION	TIME FRAME	DATE COMPLETED

**GOAL 1: Increase energy efficiency and renewable energy funding through internal and external sources.**

F1.1	Apply for applicable utility-based energy waste reduction programs.	ONGOING	
F1.2	Continue to take advantage of sporadic and time-sensitive grant opportunities like the Mott funded Energy Planning with EcoWorks.	ONGOING	
F1.3	Review the table of Project Financing Options located in Table D of this document for financing mechanisms that may be a good fit for a particular project or need.	NOW	

**GOAL 2: Establish a revolving energy fund.**

F2.1	Identify sources for seed funding.	NOW	
F2.2	Determine scope of the fund (i.e. single building, municipal, community-wide).	NOW	
F2.3	Return 80% of energy cost savings from all projects to the revolving energy fund to allow for seeding of projects in the following year.	NOW	
F2.4	Pass policy to establish and adopt a revolving energy fund.	1-2 YEARS	

STAFFING		
ACTION	TIME FRAME	DATE COMPLETED

**GOAL 1: Establish an Energy Manager position.**

S1.1	Acknowledge authority for the Community Development Department to coordinate energy management activities and identify staff in the department as a recognized resource for township staff.	NOW	
S1.2	Hire a part-time Energy Manager as an added part of a current employee's job description, as a new	1-2 YEARS	

	position within the government, or as a third-party contract.		
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**GOAL 2: Incorporate this energy plan into the Scope of Work for the Sustainability Committee.**

S2.1	Include implementation of this Action Plan in the Sustainability Committee scope of work.	NOW	
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**POLICIES AND PROCEDURES**

<b>ACTION</b>	<b>TIME FRAME</b>	<b>DATE COMPLETED</b>
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**GOAL 1: Promote and strengthen energy management policies and procedures.**

PP1.1	Promote the following environmental standards: article 14.11 wind energy conversion systems, article 14.12 solar energy collectors and article 14.13 geothermal energy systems.	ONGOING	
PP1.2	Sign and uphold the commitments of the Paris Climate Accord.	NOW	
PP1.3	Sign and uphold the Sierra Club’s Ready for 100 pledge to commit to running your township facilities on 100% renewable energy.	NOW	
PP1.4	Pass a resolution or policy that requires all municipal buildings to benchmark energy consumption data annually.	NOW	
PP1.6	Pass a board of trustees resolution in support of adopting this Energy Plan.	NOW	
PP1.6	Examine procurement policies to ensure that the bidding and/or purchasing processes account for the energy efficiency of equipment and do not create a barrier to implementing clean energy projects.	NOW	
PP1.7	Regularly examine standards to ensure that they remain current and in alignment with new strategies and green technologies as they are developed.	NOW	
PP1.8	Streamline the permitting and inspection processes for residents and businesses to install solar and geothermal systems and publish this process online.	1-2 YEARS	
PP1.9	During the township’s next master plan cycle, update the energy policy guidance as a part of the Master Plan.	Next Master Planning cycle	

**GOAL 2: Improve knowledge of energy management and sustainable design among township staff, appointed and elected officials.**

PP2.1	Include information on the township’s energy vision and energy management strategy in the orientation packets for all appointed and elected members of boards and commissions as well as municipal staff members.	1-2 YEARS	
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DATA		
ACTION	TIME FRAME	DATE COMPLETED

**GOAL 1: Improve the data-driven approach to managing energy use.**

D1.1	Identify or build a master list of all municipally owned facilities.	NOW	
D1.2	Collect copies of the previous 12-36 months of energy (gas, electricity, and steam) consumption data and enter into a spreadsheet format consistent with Portfolio Manager.	NOW	
D1.3	Create a spreadsheet on the shared drive to organize energy use information including the appropriate level of detail such as facility name, address, account numbers, meter numbers, square footage, year built, number of computers etc.	NOW	
D1.4	Collect building and consumption information for all municipally owned facilities and upload into the EPA's Portfolio Manager.	NOW	
D1.5	Establish a process to populate energy consumption data monthly or quarterly into Portfolio Manager.	NOW	

**GOAL 2: Establish a process to analyze data to determine energy use trends and billing errors.**

D2.1	Examine bills from each facility for any errors or rate optimization that may be possible.	1-2 YEARS	
D2.2	Set a base year for comparison using the most complete and relevant sets of data and normalize for weather.	1-2 YEARS	
D2.3	Audit at least 10% of energy consumption data in Portfolio Manager for quality assurance/quality control.	1-2 YEARS	
D2.4	Look at each building's performance noting any energy spikes or gradual increases in energy consumption that may indicate mechanical failures or leaks.	1-2 YEARS	
D2.5	Look at how your facilities compare to others in the region. For any buildings that have recently had upgrades, ensure that the expected drops in energy consumption are also represented. The absence of reductions may indicate failing equipment or incorrect installation.	1-2 YEARS	

**GOAL 3: Improve communications with facility managers, utility providers, and relevant contractors to resolve issues quickly.**

D3.1	Call DTE to request any refunds for billing errors; use these refunds to seed an energy project financing mechanism such as a revolving energy fund.	NOW	
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D3.2	Ensure that it is part of the energy manager's task load to review building performance every 1-3 months to flag any new issues.	NOW	
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## COMMUNICATION

ACTION	TIME FRAME	DATE COMPLETED
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### GOAL 1: Improve energy and sustainability-related communication resources.

C1.1	Highlight achievements at the municipal, departmental, and individual level by way of a quarterly report out via the Pittsfield Charter Township mass email function.	NOW	
C1.2	Distribute easy to follow tips and reminders about the township's energy vision on a regular basis (monthly or quarterly).	1-2 YEARS	
C 1.3	Publish the final adopted version of this energy plan on the township's website.	1-2 YEARS	

### GOAL 2: Promote and share energy reduction achievements with staff and residents.

C2.1	Enact a department-by-department competition to reduce energy expenditures.	1-2 YEARS	
C2.2	Consider the development of a website dashboard to report on municipal energy management achievements and progress.	1-2 YEARS	
C2.3	Promote the township's energy vision on municipal marketing materials, letterhead, the township's website, through regional conferences, and/or other appropriate communication mechanisms.	1-2 YEARS	



SOUTHEAST MICHIGAN  REGIONAL ENERGY OFFICE

